

PLASMA PROCESS AND APPARATUS

ABSTRACT

[0058] An apparatus and process for enhancing the ignition of a gas to form a plasma in a plasma tool. The apparatus and process includes the use of a plasma tube to locally enhance the applied electric field so that plasma can be initiated at higher pressures, at lower electric fields, and/or in otherwise difficult gases to ignite. The plasma tube includes at least one conductive fiber secured to the tube. A process for enhancing the local electric field includes coupling the plasma tube to an energy source such as microwave energy, radiofrequency energy, or a combination comprising at least one of the foregoing energy sources.